Appendix B. ICD Annotated Outline

This appendix presents a sample annotated outline each organization can use as a guide in preparing ICDs and DFCDs. Sections marked with an asterisk indicate partial completion in the preliminary version.

1. Introduction (same format as the IRDs)

1.1 Identification

1.2 Scope

1.3 Purpose and Objectives

1.4 Status and Schedule

1.5 Document Organization

2. Related Documentation (same format as the IRDs)

2.1 Parent Documents

2.2 Applicable Documents

2.3 Information Documents

3. Interface Overview. This section describes the purpose of the interfaces and gives a high-level description of the flows (as an introduction to the detailed information provided in Section 4). It will include a context diagram (similar to the IRD context diagram) and also will describe the interconnect topology (networking), including a diagram.

4. Data Flow Descriptions

4.1 Data Flow #1 (This section is repeated for each data flow in the interface)

4.1.1 General. This section contains an identification of the data flow (data flow name) and the purpose of the flow. It will also contain the "context" information that would be contained in a data flow scenario. This context information identifies the following:

- The functional purpose of this flow (session establishment/termination, status reporting, algorithm updating, data product distribution)
- The system that initiates this flow (ECS subsystem or external subsystem)
- How the flow is initiated (timer driven, data driven, push/pull)
- How the data are delivered (electronically via EBnet, postal delivery, overnight mail)*

- Frequency of the flow (such as daily, weekly, during anomalies, as requested, as negotiated with the end user, when data become available)*
- Relationship of this flow to other flows/processes (e.g., required links between data flows, such as request/response relationships; receipt and required acknowledgment; error notifications)
- Data volume/sizing estimate*
- Backup method*
- Special instructions,* e.g. error handling (discard errors or retain and flag); handling of duplicate data (keep, discard, or flag)

4.1.2 Detailed Data Description

4.1.2.1 Interface Method.* This section will identify (or reference) standards for the method for exchanging information (EBnet, EOS Science Network [ESN], tape) and communications protocols (e.g., transmission control protocol/internet protocol [TCP/IP]). The information will include references to other documents that identify the required mechanical, electrical, and physical interfaces for electronic interfaces. This section will also identify the required physical information for media transfers (9-track tape, CD-ROM).

4.1.2.2 Format Ground Rules.* This section will contain data format/transmission ground rules, such as:

- Standard media headers and delimiters (volume IDs, beginning of tape (BOT)/end of tape (EOT) markings, beginning of file (BOF)/end of file (EOF) markings
- Data conventions (bit/byte ordering)
- Use of fill data
- Use of fixed or variable data item sizes
- Data item header/ trailer information and its usage (such as cyclic redundancy checks [CRCs] for error detection/handling, acknowledgment, special flags)

Table 4.1.2* Detailed definition of data fields in table format, such as:

- Data type (e.g., long integer, short integer, char)
- Field length (e.g., number of bytes, number of bits)
- Bit/byte level formats
- Range of values

- Resolution (LSD) of the measurement (meters, seconds)

- Resolution of the field (millimeters, milliseconds)
- Textual description (could be a reference to another document)

4.2 Data Flow #2 (etc.)

See 4.1

Data Flow #1 Data Format Table Example**

Item Number	Number of Bytes	Data Item	Range of Values
1	1	Message Type	0 = Product Order 1 = Something else
2	2	Message Version No.	00000000-11111111
3	2	Instrument ID	0 = Instrument 1 1 = Instrument 2 (etc.)
4	2	Product ID	0 = Product 0 1 = Product 1 (etc.)

**Data items listed for Preliminary ICD.

Appendixes (as appropriate):

A. Issues and TBDs/TBRs and the plans to develop solutions.

B. Others

Abbreviations and Acronyms

This page intentionally left blank.